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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,583	12/18/2001	Maurilio Cometto	ANDIP002	9533
22434	7590	01/09/2008		
BEYER WEAVER LLP			EXAMINER	
P.O. BOX 70250			JEAN GILLES, JUDE	
OAKLAND, CA 94612-0250			ART UNIT	PAPER NUMBER
			2143	
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			01/09/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/026,583	Applicant(s) COMETTO ET AL. <span style="float: right;">mn</span>	
	Examiner Jude J. Jean-Gilles	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19-21 and 63-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-12, 17, 19-21, 63- 65, and 67-72 is/are rejected.
- 7) ☒ Claim(s) 4-8, 13-16 and 66 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/18/2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This office action is responsive to RCE communication filed on 10/16/2007.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 9-12, 17, 19-21, 63- 65, and 67-72** are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul et al. (Paul) , Patent No. 2005/0047334 A1 in view of Aimoto et al (Aimoto), U.S. Patent No 6,144,636.

Regarding **claim 1**, Paul teaches the invention substantially as claimed. Paul discloses a method comprising:

receiving a frame having a source identifier field corresponding to a source node and a destination identifier field corresponding to a destination node, the frame having been transmitted to a fibre channel network switch through a plurality of switches including a first intermediate switch between the network switch and the source node (fig. 4; par.,. 0006-0007);

characterizing traffic flow at the network switch, wherein characterizing traffic flow comprises determining an amount of congestion control needed in a fibre channel fabric (fig. 4-5; par. 0105-0106 and 0113). However, Black does not disclose the details of a

method wherein if a moderate amount of congestion control is needed, a first instruction is generated and if a significant amount of congestion control is needed, a second instruction is generated; and wherein the first instruction is sent only to the first intermediate switch to reduce transmissions at the first intermediate switch and the second instruction is sent to the plurality of switches including the first intermediate switch to reduce transmissions at the plurality of switches including the first intermediate switch. Nonetheless this feature is well known in the art and would have been modification to the system shown by Paul as evidenced by Aimoto.

In an analogous art, Aimoto shows a system that controls data over a switch fabric. Fig. 8A-B of Aimoto teaches specifically illustrates the operations of notifying congestion using commands based on congestion levels. Aimoto discloses *"...In a case where the lightly-congested state is exhibited, the circuit 410 gives a congestion notification command as illustrated in FIG. 8B in accordance with the compared result signal 442 delivered from the VCI congestion level decision circuit 440 (step 616). In case of a non-congested state, the circuit 410 does not give the congestion notification command irrespective of the compared result signal 442 (step 618), and in case of the heavily-congested state, it gives the congestion notification command irrespective of the compared result signal 442 (step 614). The congestion notification command is given on a signal line 154..."* (see Aimoto; column 12, lines 47-64). In an attempt to reduce congestion based on the level of traffic in a switch fabric, it is appropriate to use send commands to the switch according to increase or decrease in traffic volume.

Given this feature, a person of ordinary skill in the art would have readily recognize the desirability and advantages of modifying the system of Paul to employ the features of Aimoto for the purpose of “performing congestion notification using commands, thus equally eliminating the congested states of the respective connections, thereby guaranteeing the fairness of the transmission rates” as stated by Aimoto in lines 16-20 of column 7. By this rationale, claim 1 is rejected.

Regarding **claims 2-3, 9-12, 17, 19-21, 63- 65, and 67-72** the combination Paul-Aimoto teaches:

2. (Original) The method of claim 1, wherein the first intermediate switch is an edge switch coupled to the source node (see Paul, fig. 212, switch 226).

3. (Original) The method of claim 2, wherein the first instruction sent to the first intermediate switch comprises an edge quench frame (see Paul, fig. 212, switch 226; par. 0191; a quench frame is a frame used in reducing traffic congestion).

9. (Original) The method of claim 1, wherein the frame was transmitted through a second intermediate switch between the first intermediate switch and the network switch (see Paul, fig. 212, switch 226; par. 0191).

10. (Currently Amended) The method of claim 9, further comprising:

sending the second instruction from the network to the second intermediate switch to control traffic from the source node to the destination node (see Aimoto; column 12, lines 47-64).

11. (Original) The method of claim 10, wherein the first instruction sent to the first intermediate switch comprises a path quench frame (see Paul, fig. 4, item 230 and 240).

12. (Original) The method of claim 11, wherein the second instruction sent to the second intermediate switch comprises the path quench frame (see Paul, fig. 4, items 230 and 240).

63. (Currently Amended) An apparatus comprising:

means for receiving a frame having a source identifier field corresponding to a source node and a destination identifier field corresponding to a destination node, the frame having been transmitted to a fibre channel network switch through a plurality of switches including a first intermediate switch between the network switch and the source node;

means for characterizing traffic flow at the network switch, wherein characterizing traffic flow comprises determining an amount of congestion control needed in a fibre channel fabric (see Paul; fig. 4-5; par. 0105-0106 and 0113), wherein if a moderate amount of congestion control is needed, a first instruction is generated and if a significant amount of congestion control is needed, a second instruction is generated; and wherein

the first instruction is sent only to the first intermediate switch to reduce transmissions at the first intermediate switch and the second instruction is sent to the plurality of switches including the first intermediate switch to reduce transmissions at the plurality of switches including the first intermediate switch (see Aimoto; column 12, lines 47-64). The same motivation and reason to combine that were utilized for the rejection of claim 1 is also valid for this claim.

64. (Original) The apparatus of claim 63, wherein the first intermediate switch is an edge switch coupled to the source node (see Paul, fig. 212, switch 226; par. 0191).

65. (Original) The apparatus of claim 64, wherein the first instruction sent to the first intermediate switch comprises an edge quench frame (see Paul, fig. 4, items 230 and 240).

67. (Currently Amended) A computer readable medium having computer code embodied herein, the computer readable medium comprising:

computer code for receiving a frame having a source identifier field corresponding to a source node and a destination identifier field corresponding to a destination node, the frame having been transmitted to a fibre channel network switch through a plurality of switches including a first intermediate switch between the network switch and the source node (see Paul; fig. 4, par. 0006-0007, 0105-0106);

computer code for characterizing traffic flow at the network switch, wherein characterizing traffic flow comprises determining an amount of congestion control needed in a fibre channel fabric (see Paul; fig. 4-5; par. 0105-0106 and 0113), wherein if a moderate amount of congestion control is needed, a first instruction is generated and if a significant amount of congestion control is needed, a second instruction is generated; and computer code for wherein the first instruction is sent only to the first intermediate switch to reduce transmissions at the first intermediate switch and the second instruction is sent to the plurality of switches including the first intermediate switch to reduce transmissions at the plurality of switches including the first intermediate switch (see Aimoto; column 12, lines 47-64). The same motivation and reason to combine that were utilized for the rejection of claim 1 is also valid for this claim.

68. (Original) The computer readable medium of claim 67, wherein the first intermediate switch is an edge switch coupled to the source node (see Paul, fig. 4, item 212, and 226).

69. (Original) The computer readable medium of claim 68, wherein the first instruction sent to the first intermediate switch comprises an edge quench frame (see Paul, fig. 4, item 230 and 240).

70. (New) A system, comprising:



an interface operable to receive a fibre channel frame from a source node, the frame transmitted through a plurality of fibre channel switches including an edge switch connected to the source node (see Paul; fig. 4, device 226 is the source node, and switch 226 is the edge switch; par. 0006-0007, 0105-0106);

a processor operable to characterize traffic flow and determine buffers levels at the interface (see Paul; fig. 4-5; par. 0105-0106 and 0113), wherein buffer levels exceeding a high threshold triggers the generation of a path quench frame that is sent to the plurality of fibre channel switches including the edge switch to limit traffic flow to the interface and wherein buffer levels between a low threshold and a high threshold triggers the generation of an edge quench frame that is send to the edge switch to reduce traffic flow to the interface from the edge switch (see Aimoto; column 12, lines 47-64). The same motivation and reason to combine that were utilized for the rejection of claim 1 is also valid for this claim.

71. (New) The system of claim 70, wherein the path quench frame instructs the plurality of fibre channel switches including the edge switch to cease transmission of any fibre channel frames to the interface (see Paul,fig. 4, item 230 and 240).

72. (New) The system of claim 71, wherein the edge quench frame instructs the edge switch to reduce transmission of fibre channel frames to the interface (see Paul,fig. 4, item 230 and 240).

***Allowable Subject Matter***

3. **Claims 4-8, 13-16 and 66** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is (571)-272-3201.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0800.

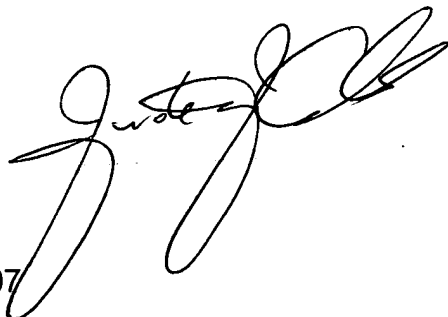
Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG

December 27, 2007

A handwritten signature in black ink, appearing to read 'Jude Jean-Gilles', is written over the printed name and title. The signature is stylized with large, flowing loops.